

Abstract of Disclosure

The information processing apparatus 200 includes: a process unit 220 having one or more registers that retain data used for calculation; a compression unit 240 that compresses and saves the content in the register to a stack memory 231; and a decompression unit 240 that decompresses and restores the data saved in the stack memory 231, to the corresponding registers.

If a first decoding unit included in the process unit 220 has decoded a call instruction which is assigned a compression control bit, the compression unit 240, in executing the call instruction, performs compression before saving the content of the registers to the stack memory 231.

If a second decoding unit included in the process unit 220 has decoded a return instruction which is assigned a decompression control bit, the decompression unit 240, in executing the return instruction, performs decompression before restoring the content saved in the stack memory 231 to the registers.